Phy15

Regular Health Qi-gong Yi Jin Jing (HQGYJJ) Is Effective in Female Community Dwellers With Chronic Non-Specific Low Back Pain (CLBP): A Randomized Controlled Trial

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Background: CLBP is characterized by frequent pain, loss of spinal flexibility, reduction of muscle strength and frequent depression. Health Qi-gong promotes the circulation of Qi within the body through mental regulation, breathing regulation and postural regulation for pain relief. HQGYJJ characterized with its full range of movement of the spine. Regular HQGYJJ was applied to measure its effectiveness in decreasing pain and improving related symptoms. **Methods:** Thirty-nine middle-aged females with CLBP from Regeneration Society were randomly assigned into two groups. An 8-week HQGYJJ standardized movement training protocol, including 3 weeks' intensity training (4-hour programme split into two sessions per week) and 5 weeks daily self-practice (about 35 to 45 minutes including warm-up, two times the movements and cool-down) were given to HQGYJJ group verse no treatment were given in control group. Trunk flexibility by classical sit-and-reach test, pain intensity by numerous rating scales 11, depressive feeling by the Chinese Beck Depression Inventory-II, functional disability by 6-minute walk test and the Chinese version of the Oswestry Disability Index were served as outcome indicators. All subjects, who were tested twice at baseline and after the training programme, were blinded to volunteer occupational therapists. **Results:** Twenty subjects in HQGYJJ group significantly decreased within-group in median pain intensity and in median depressive features, significantly increased in median trunk flexibility. In compare with 19 subjects in control group in post-test, HQGYJJ group showed significant gain between-group in functional capacity. **Conclusion:** Regular HQGYJJ helps middle-aged female community dwellers with CLBP in improving functional capacity. It is an effective community home programme.

Phy16

Application of Task Oriented Training With Neuromuscular Activation (TONMA) for the Rehabilitation of Upper Limb Function in Patients With Stroke

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Background: Task related training was an effective element for the stroke rehabilitation but patients with severe impairment was difficult to perform the tasks (Knutson et al., 2007). Functional electrical stimulation (FES) was shown to be effective in our previous randomized control trial (RCT) study in 2008. This study investigated the effectiveness of TONMA by applying stimulation to the wrist and fingers extensors to facilitate the subjects performing task specific training. **Methods:** We recruited 20 sub-acute stroke patients. This was a single blinded RCT with pre/post assessments by the Functional Test for the hemiplegic upper extremity (FTHUE-HK), Functional Independence Measurement, Fugl-Meyer Assessment of motor function of the upper extremity in hemiplegia, Action Research Arm Test and Motor Activity Log (MAL). The subjects attended 15 sessions, 3 sessions weekly for 5 weeks, 1.75 hour per session. The experimental group would undergo upper limb and shoulder realignment, repeated practice of specific training tasks and ADL/IADL training. The control group would participate in the same activities without FES. The frequency of stimulation was 40 Hz and the stimulation electrodes were placed on the motor point of extensor digitorum and abductor polices longus muscles. The subject could trigger the stimulation by the unaffected hand with accelerometer sensor. **Results:** Wilcoxon signed rank test and ANCOVA test were done for within/across group comparison. Both groups showed significant improvement after training ($p = .005–.028$). Moreover, there was significant more gain in TONMA group than control group in FTHUE-HK and MAL ($p = .028–.045$). **Conclusion:** The application of TONMA shows positive findings in this preliminary study. Further study with larger sample size with follow-up is indicated.

Phy20

Occupational Therapy for Rheumatic Wrist

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Background: Wrist and hand deformities are hallmark features in patients with rheumatoid arthritis (RA), which can lead to severe disability. Synovectomy and arthroplasty are common surgical interventions in managing wrist synovitis and arthritis. Comprehensive occupational therapy is essential for patients to attain and maintain optimal functional recovery after the operation. **Methods:** A retrospective review of the RA patients with wrist synovectomy and arthroplasty was conducted. Pre-operative, 1-year, 3-year and 5-year post-operative assessment results were retrieved as preliminary outcome measures to reveal patients' physical functioning, pain and satisfactory level. **Results:** Fifty-one RA patients with wrist synovectomy and arthroplasty were reviewed. The mean pre-operative pain score was 6.29 which decreased to 1.92 and 1.93 at one year and three years after the surgery respectively; and it increased again to 2.13 at 5-year follow-up. The mean satisfaction score was 1.59 and 8.21 at pre-operative and 5-year assessment respectively. Both scores had significant improvement ($p < .025$) at 5-year follow-up. There were no significant differences in range of motion, grip and pinch strength. **Conclusion:** After five years of the operation, majority of patients satisfied with pain relief. No deterioration was noted in range of motion and hand strength. Satisfactory long term outcome was achieved with the integrated effort among hand surgeons, rheumatologists and occupational therapists. The disease progression and risks of complication could be monitored by on-going evaluation and regular joint clinic follow-up. Individualized treatment programme like splinting, joint protection and pain management techniques, could empower RA patients to live with their disabilities.

Phy21

The Role of Imagery in Practice of Tai Chi

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Background: Tai Chi, as a mind-and-body activity, has been revealed to benefit patients who suffered from different physical or mental disorder. This study aimed to investigate the extent to which motor imagery is involved in the process of Tai Chi practice. The results are useful for understanding the mental component of Tai Chi and hence shed light on its application in rehabilitation. **Methods:** The participants were individuals who claimed practicing Tai Chi ranging from beginner to master levels. They were required to complete the custom-designed Tai Chi Questionnaire (TCQ) and Tai Chi Movement Imagery Questionnaire (TCMIQ). Besides, the demographic characteristics and information on their experience in Tai Chi were obtained. A total of 60 completed the questionnaires with 55% response rate. **Results:** The results suggested that the participants utilized intensive visual and motor imagery during their practices. The imagery can be further divided into kinaesthetic and visual motor imagery. Cluster analysis further indicated that participants with less experience ($n = 31$; 1 to 3.78 years) tended to employ visual motor imagery whereas those who were with more experiences ($n = 29$; 5 to 30 years) tended to use kinaesthetic imagery. A significant differences in between these two cluster groups and the year of practice ($t_{58} = 2.331$, $p < 0.05$). **Conclusion:** The practice of Tai Chi appears to involve intensive visual and motor imagery. More importantly, the shift from visual motor to kinaesthetic imagery suggests possible increases in the involvement of the motor and frontal cortices when individuals learn practicing Tai Chi. The findings further strengthen the therapeutic values of employing Tai Chi in rehabilitation.